

Docket No. 00-073-TAP

CLAIMS:

What is claimed is:

1 1. A safety system for a media library comprising a
2 plurality of media storage cells and at least one media
3 picker robot that moves along the media storage cells,
4 wherein the library is contained within an enclosure
5 having at least one access means, the safety system
6 comprising:

7 an access sensor that detects if the access means in
8 the enclosure is open; and

9 a control component that operates the robot in the
10 media library in one of the following modes:

11 if the access means is closed, a normal mode,
12 wherein the picker robot moves at a first specified
13 speed; and

14 if the access means is open, a safe mode,
15 wherein the picker robot moves at a second specified
16 speed that is slower than the first speed of the normal
17 mode.

1 2. The system according to claim 1, wherein:

2 the access sensor also detects if the access means
3 is locked; and

4 the control component operates the robot in safe
5 mode only if the access means is unlocked.

1 3. The system according to claim 1, wherein the slower
2 robot speed of the safe mode is implemented by means of
3 control software that reduces power to robot.

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1 4. The system according to claim 1, wherein the slower
2 robot speed of the safe mode is implemented by means of
3 an electrical circuit that limits power to the robot.

1 5. The system according to claim 1, wherein the media
2 library further comprises a plurality of picker robots
3 that are responsive to the control component.

1 6. The system according to claim 1, wherein the media
2 library further comprises a plurality of access means
3 associated with the access sensor.

1 7. A safety system for a media library comprising a
2 plurality of media storage cells and at least one media
3 picker robot that moves along the media storage cells,
4 wherein the library is contained within an enclosure
5 having at least one access means, the safety system
6 comprising:

7 an access sensor that detects if the access means in
8 the enclosure is open; and

9 a control component that operates the robot in the
10 media library in one of the following modes:

11 if the access means is closed, a normal mode,
12 wherein the picker robot may access the entire media
13 library;

14 if the access means is open, a safe mode,
15 wherein the picker robot is excluded from moving in at
16 least one restricted zone within the library.

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1 8. The system according to claim 7, wherein:

2 the access sensor also detects if the access means
3 is locked; and

4 the control component operates the robot in safe
5 mode only if the access means is unlocked.

1 9. The system according to claim 7, wherein the picker
2 robot is excluded from moving in the restricted zone by
3 means of control software.

1 10. The system according to claim 9, wherein the control
2 software diverts the robot outside the zone.

1 11. The system according to claim 9, wherein the control
2 software shuts off power to the robot within the zone.

1 12. The system according to claim 7, wherein the picker
2 robot is excluded from moving in the restricted zone by
3 means of an electrical circuit that shuts off power to
4 the robot within the zone.

1 13. The system according to claim 7, wherein the picker
2 robot is excluded from moving in the restricted zone by
3 means of at least one mechanical stopping mechanism at
4 the periphery of the zone.

1 14. The system according to claim 7, wherein the picker
2 robot is excluded from moving in the defined zone by
3 means of at least one obstruction sensor that detects a

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4 physical obstruction in the path of the robot in the
5 zone.

1 15. The system according to claim 14, wherein the
2 obstruction sensor operates by at least one of the
3 following means:

4 optical;
5 infrared;
6 ultrasonic;
7 electromagnetic; and
8 contact transducer.

1 16. The system according to claim 7, wherein the media
2 library further comprises a plurality of media picker
3 robots that are responsive to the control component.

1 17. The system according to claim 7, wherein the media
2 library further comprises a plurality of access means
3 associated with access sensor.

1 18. A method for providing a safety procedure for a
2 media library comprising a plurality media storage cells
3 and at least one media picker robot that moves along the
4 media storage cells, wherein the library is contained
5 within an enclosure having at least one access means, the
6 method comprising:
7 determining if the access means in the enclosure is
8 open;

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9 if the access means is closed, operating the picker
10 robot in a normal mode, wherein the robot moves at a
11 first specified speed; and
12 if the access means is open, operating the picker
13 robot in a safe mode, wherein the robot moves at a second
14 specified speed that is slower than the first speed of
15 the normal mode.

1 19. The method according to claim 18, further comprising
2 determining if the access means is locked; and
3 operating the robot in safe mode only if the access
4 means is unlocked.

1 20. A method for providing a safety procedure for a
2 media library comprising a plurality of media storage
3 cells and at least one media picker robot that moves
4 along the media storage cells, wherein the library is
5 contained within an enclosure having at least one access
6 means, the method comprising:

7 determining if the access means in the enclosure is
8 open; and

9 if the access means is closed, operating the picker
10 robot in a normal mode, wherein the robot may access the
11 entire media library;

12 if the access means is open, operating the picker
13 robot in a safe mode, wherein the robot is excluded from
14 moving in at least one restricted zone in the library.

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- 1 21. The method according to claim 20, further comprising
- 2 determining if the access means is locked; and
- 3 operating the robot in safe mode only if the access
- 4 means is unlocked.

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